

### **A DEPARTURE FROM FREE TRADE**



As already noted, David Ricardo's proof that free trade was better than no trade did not really speak to the debate of his day (nor ours) directly. The debate in his time (and ours) is usually between restricted trade and free trade. All countries do some international trading; autarky is never viewed as a serious option. Is it possible that compared with free trade, we could improve U.S. welfare through a trade restriction?

Suppose the U.S. government imposed an export limitation of 4,800,000 bu. of wheat. We know from the table on page 10.12 that this is less wheat than would be exported under free trade conditions. (Under free trade, we have seen that U.S. exports would be 6,000,000 bu.). The export limitation is a departure from free trade. Would the U.S. be better off with or without it?

Consider first what would happen in the U.K., given the U.S. export limit. We know from the table on page 10.12 that the U.K. would be willing to export 12,000,000 yds. of cloth for 4,800,000 bu. of wheat imports at a cloth for wheat price ratio of .4. Thus, with the U.S. export restriction, the U.K. is clearly hurt. It gets less wheat for the same volume of cloth exports. Moreover, its terms of trade ratio declines from .5 to .4.

Consider second what must be happening in the U.S. The U.S. has the capacity to produce 12,000,000 bu. of wheat with free trade, it consumes 6,000,000 bu. and exports 6,000,000 bu. But if it is only going to export 4,800,000 bu., it will have 7,200,000 bu. left over for domestic consumption (assuming it stays completely specialized in wheat). Thus, the price of

wheat relative to cloth in the U.S. must FALL to induce added domestic consumption. The same ratio has risen in the U.K.<sup>1</sup> (Its inverse has fallen from .5 to .4). Hence, it is evident that the export restriction has caused the U.S. domestic terms of trade to depart from the world (U.K.) terms of trade.

It would seem that the U.S. COULD be better off due to the export restriction. It is getting the same volume of cloth imports that it had before under free trade, i.e., 12,000,000 yds. from the U.K. But it is giving up less wheat for those imports and is therefore able to consume more wheat domestically. It can sacrifice no cloth and yet obtain more wheat! Of course, this benefit for the U.S. comes at the expense of its trading partner, the U.K.<sup>2</sup>

Indeed, the U.S. has a variety of options. If it chooses to do so, it can stay completely specialized in wheat production. It will have 12,000,000 yds. of cloth for consumption (from imports) and, after deducting the amount of wheat it must export, it will have 7,200,000 bu. of wheat for consumption. In this case, the U.S. takes its benefit (derived from "exploiting" the U.K.) entirely in wheat. However, the U.S. could, if it doesn't want to take the benefit entirely in the form of more wheat, take some benefit in the form of more cloth, simply by diverting some wheat labor into the cloth industry. In the limiting case, it could reduce total wheat output by 1,200,000 bu. (the drop in the amount it needs to export) and divert the labor freed up into the cloth industry.

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<sup>1</sup> The international terms of trade facing the US have risen--making the US better off--while its domestic terms of trade have fallen.

<sup>2</sup> We assume in this example that the UK does not "retaliate" against the US by imposing an export quota on cloth.

From the technical coefficients, we know that dropping wheat production by 1,200,000 bu. will free up 200,000 hours of labor. Those hours can produce another 2,000,000 yds. of cloth. So if the U.S. wants to take its benefit entirely in the form of more cloth production, it can add those 2,000,000 yds. to the 12,000,000 yds. of imports and consume a total of 14,000,000 yds. (Or, of course, it can take intermediate positions and consume some more wheat and some more cloth than it had under free trade).

There are some bounds on what can happen in this special example. The ratio of the price of cloth to the price of wheat in the U.S. - once open access to the world market is cut off by government action - reverts back to .6. Once the export quota is sold at world prices, anyone in the U.S. who wants to trade wheat for cloth must do so at the autarky price ratio. Using one known possible consumption point (7,200,000 bu. of wheat, 12,000,000 yds. of cloth) and the autarky price ratio (.6) to determine the slope, the consumption possibilities curve segment can be established. It can be shown that the demand conditions of page 10.12 will in fact lead the U.S. to take all its benefits of exploitation in wheat.<sup>3</sup>

It might be noted that export restrictions are used in the real world by countries that form cartels or use state trading authorities to exploit consuming countries.

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<sup>3</sup> The consumption possibilities curve is broken into segments in this example, because of the export quota. One point on the relevant segment is wheat consumption (W) = 7,200,000 and cloth consumption (C) = 12,000,000. Since the U.S. can choose to have more cloth by diverting labor into the cloth industry from the wheat industry, the slope of the segment is -.6. Thus, the equation of the line segment can be written:

$$W = -.6C + Z$$

where Z is the "Y" intercept. Plugging in the values of W and C above permits us to solve for Z = 14,400,000. The technique applied in Appendix A10 can be combined with the demand assumption to show that the U.S. will in fact consume where W = 7,200,000 and C = 12,000,000.